DOCUMENT RESUME

ED 378 531 CS 011 950

AUTHOR McCabe, Don
TITLE How To Evaluate Your Present Spelling Program. AVKO "Great Idea" Reprint Series No. 621.
INSTITUTION AVKO Educational Research Foundation, Clio, MI.
PUB DATE 95
NOTE 27p.; For other documents in this series, see CS 011 943-960.
AVAILABLE FROM AVKO Educational Research Foundation, 3084 W. Willard Rd., Clio, MI 48420-7801 ($1; quantity discounts available).
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Achievement Tests; Elementary Education; Evaluation Methods; *Program Effectiveness; Program Evaluation; *Spelling; *Spelling Instruction; Word Lists
IDENTIFIERS Test Adaptations

ABSTRACT

This booklet describes a method that any school can use to test the effectiveness of their current spelling program or to compare various spelling programs being used within their system. After a brief discussion of the cost of the program, the booklet describes the paired word approach to evaluating spelling programs, in which one set of words is used as a pretest and a second set of words of the same difficulty, but not taught as part of the program, is used as a posttest. The booklet next discusses a sample construction of the test, and the 10 steps to follow in evaluating spelling programs. A sample scorer's posttest check sheet and a chart containing samples of equivalent word pairs of equal statistical difficulties are attached. (RS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 378 531

How to Evaluate Your Present Spelling Program

by

Don McCabe

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

D. McCabe

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

AVKO "Great Idea"

Reprint Series #621

CS011950

BEST COPY AVAILABLE

How to

Evaluate Your Present

Spelling Program

by

Don McCabe

AVKO Great Idea Reprint Series

#621

Copyright © 1995 AVKO Educational Research Foundation
3084 W. Willard Road, Suite 621
Clio, Michigan 48420-7801

Telephone: (810) 686-9283 FAX (810) 686-1101

What is AVKO?

AVKO is a non-profit tax-exempt membership organization.

AVKO was founded in 1974.

AVKO is subsidized by donations and grants.

AVKO is open to membership to anyone interested in helping others learn to read and write.

AVKO is run by members from as far away as Alaska and Florida.

AVKO's daily operations are handled by volunteers.

AVKO plans to build and operate a model reading research center in a YEAR-AROUND **camp** setting that would economically and efficiently service the needs of dyslexics of all ages.

AVKO hopes to spread the concept that parent and spouse tutoring in spelling/reading skills can be successfully taught in adult community education classes and that members of a problem reader's support group can greatly assist the efforts of any volunteer tutor working in the literacy movement.

AVKO provides newsletters and economical opportunities to pursue individual research projects and to take part in large scale cooperative research projects that have immediate practical applications.

AVKO is attempting to accomplish these goals primarily through the profits generated by the inservices, workshops and the sale of materials developed for the special needs of students, parents, and adults.

How to Evaluate Your Present Spelling Program

Do we *really* need a different spelling program? How can we determine whether or not Brand X Spelling by Famous Publishers is as good as its hype? Does any spelling program really work? These and a few other questions should automatically come to mind if you are a principal, a member of a spelling curriculum committee, or a teacher concerned about helping your students become adequate spellers.

You can read the latest studies and you can read all the official data put out by publishers, but will all this reading really give you the answers to the important questions?

We at AVKO don't think so. We have read the studies. We have looked at all kinds of spelling programs. We have read their propaganda sheets. And because we are a non-profit organization dedicated to finding solutions to educational problems, we have designed a method that any school can use to test the effectiveness of their current spelling program or to compare various spelling programs being used within their system.

We can do it for you. But we'd have to charge an arm and a leg and perhaps a finger and toe on top of that. So, I'm sure you'd rather have a system you could follow that would answer those crucial questions.

It's cost? Two sheets of paper per student, one sheet of paper with the spelling test for each teacher, and about two minutes of some reliable spelling checker's time per student tested, another minute per student for a data entry person to compile the data and perhaps four hours tops for the person in charge to write the report, plus perhaps eight to twenty hours for someone to design the test and prepare the teachers involved in how to administer it.

Before we tell you how it should be done we would like to point out the pitfalls of standard methods of evaluation of spelling.

1. Spelling tests too often measure students' short term memories and not their permanent memories.

2. Standardized spelling tests are not designed to discriminate between ***incidental*** learning of spellings and the learning of spellings that can be directly attributed to the teaching of spelling. By incidental learning of spelling we mean such learning that may take place just from reading, from having spelling errors in papers corrected, by using the dictionary, by asking for correct spellings, etc.

To overcome the first problem, we believe that the best way to test students' spellings of words is to have the pretest done on the first day of school in September and the posttest done on the first day of school in September of the following year.

To overcome the second problem of being able to determine the actual amount of learning that can be attributed to the spelling program as compared to incidental learning, we recommend using ***the paired word approach***. We take two sets of words. Each word in Set A has a word of exactly the same level of difficulty that it does in Set B. The difference between them will be that only the words in Set A were directly taught as part of the spelling program. The words in Set B were not taught.

Without the paired word approach many spelling programs will show false positive gains. For example, Brand X shows statistical evidence claiming that 90% of the students tested on the words *ship*, *little*, and *show* could spell these words as the result of their third grade spelling program. What they are not telling you is that if the school was just an average school 49% of the students already knew *ship* before they started the 3rd grade, 65% already could spell *little*, and 58% could spell *show*. And if the school is just an average school, 71% of the students would be able to spell *ship* at the end of the 3rd grade **without** any special instruction on that word and 86% would be able to spell *little* and *show*.

Now this might be significant to a statistician, but it certainly is NOT significant in terms of instruction because with or **without any special instruction 99%** will eventually learn all three of these words *ship*, *little* and *show* before they get out of middle school anyway.

Before a school switches to Brand X Spelling (or even to AVKO's Sequential Spelling Series)[1], a school should determine several things.

1. The definition of an Effective Spelling Program (ESP). For example, teachers may decide that for a spelling program to be effective that a ***certain*** percentage of the students who did ***not*** know how to spell a given word at the beginning of the program should, as a result of direct instruction, be able to spell that word one year later. That certain percentage which the teachers decide is sufficient to constitute an effective spelling program could be: (a) 10% (b) 25% (c) 33% (d) 50% (e) 67% (f) 75% (g) 90%. It is crucial to determine what constitutes an effective program first and then to test it. You should

[1] This we humbly suggest is better than any spelling series on the market, but not nearly as good as a spelling program that can be designed by each teacher using the principles of AVKO's Sequential Spelling in conjunction with an overall curriculum program designed to fit the needs of the students.

never test the program first and then establish your effectiveness criteria.

2. Does the spelling program improve student's ability to read? Remember, the decoding processing is merely the flip side of the encoding process. Pretests and posttests using standardized measures and control groups can determine this. Your local statistician should know how to set it up. If not, your nearest university will be able to help you.

3. Is the spelling program designed to help improve students' handwriting? Is the handwriting program designed to improve spelling? Is the composition program designed to help improve both spelling and handwriting?

Thanks to the most complete study of the spellings of school children by Harry A. Greene called the *New Iowa Spelling Scale*,[2] we can use "baseline" words to determine the amount (if any) of improvement in spelling that can be attributed to the classroom study of spelling words.

For example, we know from this study that we can expect in a mythically average school that in September only 16% of the average 5th grade students can spell the word *marriage*. We can expect 27% to correctly spell marriage in September of the 6th grade. We can expect 52% by the 7th grade and 63% by the 8th. ***If*** the word *marriage* were to have been taught in your school's spelling series during the 5th grade, you would expect that far more than 27% should be able to spell it in the 6th grade. If not, then the old learn-for-the-test-on-Friday and forget-by-Monday syndrome is working.

We have re-arranged *The New Iowa Spelling Scale*[3] so that any local curriculum coordinator or statistician can construct a test to determine how effective your spelling series is. The test would use two sets of words. One set of words would be words that have been studied. The other set of words would be words of exactly the same statistical level of difficulty but which were not studied. If your spelling program is truly effective then there should be a readily recognizable difference between the scores, not just merely a statistically significant difference. Statisticians may believe an increase of 5% over an expected 10% gain is significant, but it would hardly justify the expense of most spelling programs. However, the amount of gain you expect to receive is something **you** should determine **BEFORE** you give the test.

---

[2] This has recently been revised by Bradley M. Loomer.

[3] Greene, Harry. Revised by Bradley M. Loomer. The New Iowa Spelling Scale. Iowa City: University of Iowa, Project Spelling, 1978

Sample Construction of the Test

A 20 matched pair word test should be sufficient. The odd numbered words should be those words that are to be studied in the coming year. The even numbered words should be words that have not been studied in any previous year and are not scheduled to be studied in the coming year. They can, of course, be slated for study in following years. Obviously each grade should have a separate pretest. The pretests should be given to every student from grades 3 through 7 on the first day of school. The posttests will be exactly the same but given to grades 4 through 8 on the first day of the following school year.

Words 1-4 should be very easy words. That is, they should be correctly spelled by 96-100% of all 5th - 8th graders.

Words 5-8 should be relatively easy words. That is, they should be correctly spelled by 90-95% of all 5th-8th graders.

Words 9-12 should be easy words known by 80-89% of all 5th-8th graders.

Words 13-16 should be fairly hard words known only by 61-79% of all 5th-8th graders.

Words 17-20 should be difficult words known only by 40-60% of all 5th-8th graders.

There isn't anything sacred about the percentages shown above. What is sacred is choosing matched pairs of words from different levels of difficulty and always progressing from the easiest to the most difficult.

The following is a sample test we constructed for a school system to test the effectiveness of their spelling program. The odd numbered words are in their speller; the even numbered are not.

Column A Words Studied	Column B Words **not** studied
1. sport (98)	2. race (98)
3. wire (97)	4. wool (98)
5. member (93)	6. lesson (93)
7. jail (92)	8. leap (92)
9. producing	9. location (92)
11. torn (87)	12. sort (87)
13. regular (86)	14. regulations (86)
15. quiet (74)	16. minute (74)
17. instant (70)	18. neglect (70)
19. journal (53)	20. particulars (53)

Certainly if the spelling program is working, we would expect many more words in Column A would be correctly spelled than column B. We would think that an ordinary spelling program of moderate effectiveness would result in 25% more correct spellings of words studied than those not studied. A truly Effective Spelling Program (ESP) should have at least 75% more correct spellings of words studied than those not studied. The instrument we give teachers contains the word and a sentence in which it occurs, and then the word repeated one more time. Directions are that teachers may repeat the word, the sentence and the word one more time only. If a teacher wants to check her/his own spelling program first before trying to convince the school system to do a system or school wide testing, she/he should give the pretest on the first day of school with the words being taught coming from the first two months of the school year and the posttest being given late in the spring.

So, use any grouping of the following paired words to devise your own test of your spelling system's effectiveness. The paired words in this pamphlet are arranged from "easiest" to "hardest." We used the statistics from *The New Iowa Spelling Scale.*[4] The only real change we made was to also add the percentage figures from the 5th through 8th grades for a total of the number out of an average 400 students who could correctly spell the words. The pairs were "picked" by the "computer" but they do seem to indicate something about how spelling is and isn't taught across the country.

Steps to follow (Summarized)

Step 1. Let teachers determine what percentage of students who don't know a word on pretest should be able to spell the word a year later if that word is directly taught. In other words, what percentage of learning constitutes an Effective Spelling Program (ESP). See sample survey form on page 8.

Step 2. Let local spelling committee create Pretest using paired words of equal difficulty. See sample pretest on p. 9

Step 3. Have teachers give pretest on 1st day of school.

Step 4. Have designated scorer (not the teachers) correct tests and complete Pretest score sheet. See sample score sheet on p. 10.

Step 5. Have designated analyst determine (a) expected gains from incidental learning and (b) expected gains from direction instruction of an Effective Spelling Program (ESP).

Step 6. Have teachers use their spelling program for the year.

---

[4] Greene, Harry. Revised by Bradley M. Loomer. *The New Iowa Spelling Scale.* Iowa City: University of Iowa, Project Spelling, 1978.

Step 7. Have teachers give the Posttest on 1st day of school (the following year)

Step 8. Have designated scorer (not the teachers) correct tests and complete Posttest score sheet.

Step 9. Have designated analyst determine gains and compare real gains to the minimum score projected for an Effective Spelling Program (ESP). See p. 12.

Step 10. Have analyst present findings to Spelling Committe, Curriculum Committee, and teachers.

Steps to follow (in greater detail)

Step #1. Let teachers determine what constitutes effective learning.

Questionnaire for Teachers:

For you to consider a spelling program to be **effective**, what percentage of students who were **not** able to spell a specific spelling program word at the beginning of the year **should be able** to demonstrate that they have learned to spell that same word correctly the following year? Circle one: A—10%. B—20%. C—25%. D—33% E—50%. F—67%. G—75%. H—80%. I—90%

Tabulate your teachers' responses. Pick the percentage that appears to be the concensus. Use this figure in determining the effectiveness of the program. For *purposes of explanation* in this pamphlet, we assume **75%** would be the passing grade selected by most teachers for a spelling program developed by experts.

Goals to be expected by Effective Spelling Program (ESP). _____

Step #2. Create Pretest using paired words of equal difficulty. Have odd numbered words those that are being studied. Even numbered words those that are not being studied. Write directions for the teachers. Give them the words and sentences using the words as sample below.

Step #3. Give the pretest.

Sample Teacher's Sheet (the pretest)[5]

Hand out the student answer sheets and tell the students that they are going to help their school test their spelling books. Tell them to do their best but not to worry. They are not going to be graded on this test. Read the word. Read the sentence and read the word one more time. If a student needs to have it repeated, you may repeat the word, the sentence and the word but only repeat once.

1.	time	It's not time to go yet. time.
2.	love	I just love taking a test that's easy. love.
3.	milk	You should drink some milk everyday. milk.
4.	May	The month of May follows April. May.
5.	toe	I stubbed my toe against the step. toe.
6.	singing	I enjoy singing folk songs. singing.
7.	learn	This year you will learn many things. learn
8.	rented	We rented an apartment for a year. rented.
9.	tie	I hope you know how to tie your shoelaces. tie.
10.	helped	A boy scout would have helped them. helped.
11.	porch	I enjoy sitting on a porch. porch.
12.	pretty	I think kittens are pretty cute. pretty.
13.	thinking	What were you thinking about? thinking.
14.	sank	The Titanic sank when it hit an iceberg. sank.
15.	victory	It was a great victory for our team. victory.
16.	serve	Who is going to serve the meal? serve.
17.	passage	We read a short passage from the book. passage.
18.	ironing	Do you have an ironing board at home? ironing.
19.	thrill	We got a thrill out of going on that ride. thrill.
20.	hundreds	It cost us hundreds of dollars to go there. hundreds.

Sentence dictation

Students are to write the entire sentence.
Repeat each sentence three times. Use normal "sloppy" speech. Do NOT over articulate. Read *going to* as "gonna"!

- It's too bad their team is going to lose the big game.
- They're going to learn that it wasn't Coach Johnson's fault.
- Many students often find studying difficult.[6]

[5] This test can be used also as the posttest the following year.
[6] Those students who **badly** misspell this sentence should be tested for learning disabilities, specifically dyslexia and/or dysgraphia. Sample such bad misspelling would be: *Meme sutend ofen fine sudin difcaulgt*

Step #4. Scorer completes Pretest Check Sheet.

Sample Scorer's Pretest Check Sheets (Partially Completed).
Based on one small middle school.

	Grade 4 (68 students)			Grade 5 (67 students)		
	# Correct Spellings	Divided by # Students	Percent Known	#Correct Spellings	Divided by # Students	Percent Known
1. time	1					
2. love						
3. milk						
4. May						
17. **passage**	14	÷ 68 =	21%	28	÷ 67 =	42%
18. ironing	15	÷ 68 =	22%	29	÷ 67 =	45%
19. thrill						
20. hundreds						
It's						
too						
their						
going to						
lose						
They're						
wasn't						
Coach						
Johnson's						
fault						

Step 5. Analyst compares school's scores to national averages for each grade. If close as in our example, analyst uses the scale. If not, the analyst uses appropriate statistical interpolation to determine expected average gains from incidental learning.

Predicted Percentage Scores from National Averages See p. 19

	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
17. **passage**	21	45	68	79	88
18. ironing	23	46	66	79	88

[1] Number of Correct Spellings divided by total students in grade=Percent correct

In this case, to determine the expected gain from the target word[8] *passage*, analyst subtracts the percentage correct in the 4th grade (21) from the percentage correct in the 5th grade (45) to arrive at the expected gain for the target word *passage* of 24. The same procedure is used to determine the expected gain from incidental learning for the control word[9], *ironing*. See **Predicted Percentage Scores** bottom of page 10.

Step 7. Analyst determines what the score for each word should be on the posttest if the spelling program is effective. Formula he uses is:

Pretest score + minimum ESP Gain expected = minimum expected posttest score.

Example using statistics for the word ***passage***

100%		100
minus beginning 4th Grade percentage (21%)		-21
equals percent who haven't yet learned		79
minus expected incidental	45	
learning gain score	-21	-24
equals percent who need to be taught		55
times effective teaching percent		x.75
Minimum Gain ABOVE expected		**41**

Minimum Percentage Score for a **75%** effective spelling program for the word ***passage*** studied in the 4th grade in the **posttest** given in grade 5 should be:

Score in 4th grade		21
Plus Incidental learning gain	24	
Plus Minimum Gain	**41**	**+ 65**
Minimum Score for 5th for 75% effective spelling program.		**86**

Step 8. The posttest is given the following September. As long as the pretests have been collected and never returned to the teacher, the exact same test can be used. Same directions.

[8] The target word will be the word that will be studied sometime during the year.
[9] The control word is the word that is almost identical in statistical difficulty but which will not be taught during the year.

Step 9. Analyst subtracts real score for each of the target words from the Minimum Score Projected for an Effective Spelling Program (ESP). See Sample Scorer's Posttest Check Sheets on p. 13.

Step 10. Analyst presents findings to the school's curriculum spelling subcommittee, the curriculum committee, and the teaching staff. The chart starting on page 14 and continuing to the end of this book contain a good sampling of equivalent word pairs of equal statistical difficulty.

If you would like to develop your own, you can find 5,508 words whose difficulty levels have been determined and in their rank order in the ***AVKO Spelling Difficulty Dictionary*** which is available from the AVKO Foundation.

AVKO's predictions

No matter how expensive your current spelling program is, it will be judged as ineffective by your teachers and your spelling committee if you use our simple test.

If your system uses the AVKO Sequential Spelling program that does not require any books for the students, the test results will satisfy your teachers and your spelling committee.

If your system uses the AVKO Sequential Spelling method and your teachers develop their own materials, the test results will more than satisfy your teachers and your spelling committee.

AVKO Inservices on Spelling are available.
Cost: $500.00 plus travel, lodging, and meals.

Other Books on Spelling Developed by AVKO's Research

- ***The Patterns of English Spelling***. This is the only reference tool ever created in which all the words sharing the same pattern can easily be found.
- ***English Spelling: The Simple, the Fancy, the Insane, the Tricky and the Scrunched Up.***. This is the only reference tool ever created in which all the words sharing the same pattern can easily be found.
- ***Sequential Spelling (Handwriting) 1 through 7.*** This is the only spelling series ever devised that allows teachers to help students improve their handwriting skills as they learn to spell without having to study. Because the system involves immediate student self correction, the teachers have no papers to correct.

Sample Scorer's Posttest Check Sheets for just the 4th Grade based on one small middle school. Notice the pretest scores are for the lower of the two grades. The posttest scores are for the higher of the two. Posttest is taken 1st day of Grade 5.

→	Grade 4 Pretest Number correct	+ Expected Gain	ESP Score	Grade 5 Actual Correct	- Expected Score	Target +/-
1. time						
2. love						
3. milk						
4. May						
5. toe						
6. singing						
7. learn						
8. rented						
9. tie						
10. helped						
11. porch						
12. pretty						
13. thinking						
14. sank						
15. victory						
16. serve						
17. **passage**	21	65	**86**	**46**	66	-40
18. ironing	29	14	43	44	43	+1
19. thrill						
20. hundreds						
It's						
too						
their						
going to						
lose						
They're						
wasn't						
Coach						
Johnson's						
fault.						
Many						
students						
often						
find						
studying						
difficult						

Word **Pairs** of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades 5-6-7-8
is	89	94	95	97	100	100	100	99
if	83	94	96	99	99	99	100	99
time	34	82	92	98	99	99	100	99
love	31	78	95	98	99	99	100	99
show	14	58	86	94	96	98	99	97
same	15	67	85	94	96	98	99	97
little	32	65	86	93	97	97	99	97
house	32	56	80	94	95	98	99	97
times	18	57	78	93	96	98	98	96
line	17	55	84	94	96	97	98	96
milk	37	70	84	92	96	98	98	96
May	34	70	89	93	96	97	98	96
ship	10	49	71	90	95	98	99	96
save	9	50	73	91	94	98	99	96
law	6	33	70	88	97	97	99	95
June	6	39	63	92	94	96	99	95
take	16	58	80	89	93	96	99	94
just	12	55	82	90	92	96	99	94
walk	20	50	70	87	94	97	98	94
tip	17	50	71	89	92	97	98	94
stand	8	43	74	88	91	96	98	93
showing	9	50	73	88	92	95	98	93
trip	3	38	71	85	92	95	97	92
place	1	37	67	83	93	96	97	92
test	5	46	77	87	91	93	97	92
rent	9	39	66	83	92	96	97	92
soon	31	62	74	87	91	94	96	92
seed	20	57	77	87	91	94	96	92
race	4	32	60	82	92	95	98	92
sport	4	36	62	83	91	94	98	92
near	5	43	65	83	90	95	98	92
mile	4	46	58	84	90	94	98	92
wife	10	34	68	82	91	96	97	92
things	15	46	75	83	91	95	97	92

The Word Pairs of Equal Difficulty are continued on pages 15 through 25

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
sir	6	38	60	81	91	97	97	92
sad	21	58	72	83	91	95	97	92
shop	11	43	73	86	90	94	96	92
sheep	6	49	62	86	89	95	96	92
yesterday	3	38	63	83	87	97	97	91
walking	8	39	64	81	90	96	97	91
toe	8	49	66	80	89	95	97	91
singing	9	49	65	78	91	95	97	91
killing	4	26	69	80	93	94	96	91
job	4	23	60	81	91	95	96	91
rope	5	40	69	80	91	95	96	91
reader	4	36	66	83	88	95	96	91
Monday	15	46	80	88	90	92	93	91
spelling	18	47	74	87	91	92	93	91
toys	40	78	81	87	89	93	94	91
uptown	10	47	70	85	89	94	94	91
somewhat	6	36	64	77	90	95	96	90
pray	7	35	64	80	90	92	96	90
tail	9	27	64	87	89	90	92	90
lad	16	38	67	82	89	90	92	88
many	17	57	68	79	87	93	95	89
puts	17	52	65	78	85	93	95	88
kids	9	30	62	78	89	92	93	88
schools	23	52	55	80	86	93	93	88
wave	5	38	64	81	87	91	93	88
making	10	36	66	81	86	91	93	88
wool	9	21	45	74	87	91	97	87
wire	3	17	50	76	85	91	97	87
seat	9	31	54	76	84	91	95	87
rivers	3	31	61	74	85	92	95	87
sorry	5	36	66	79	86	90	94	87
somehow	11	40	65	77	87	91	94	87
tie	13	36	68	77	86	91	94	87
helped	11	48	75	78	86	90	94	87
trail	n/a	13	47	77	85	90	94	87
study	1	19	57	77	84	91	94	87
plants	n/a	28	54	79	86	90	92	87
leaves	9	19	53	81	85	89	92	87

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
sometimes	13	45	63	76	84	92	94	87
pulling	4	28	64	75	85	92	94	87
mice	2	31	50	77	85	90	94	87
lord	8	39	60	76	84	92	94	87
learn	n/a	18	51	75	86	91	96	87
rented	1	17	47	75	84	92	96	87
places	2	24	45	71	89	93	93	87
reports	2	22	46	71	88	92	93	86
unhappy	3	25	57	81	83	89	92	86
plan	n/a	46	65	78	85	90	92	86
neat	8	35	61	79	82	91	92	86
mailing	2	24	56	77	83	91	92	86
runs	43	58	73	78	84	88	92	86
rides	10	37	61	78	84	88	92	86
spoke	3	22	62	75	85	90	94	86
stamps	4	22	52	73	85	90	94	84
meet	12	22	60	79	85	88	90	86
hogs	15	35	62	78	85	88	90	85
heads	5	22	51	73	85	90	93	85
stands	7	29	56	74	83	90	93	85
member	4	12	49	71	85	90	93	85
lesson	n/a	12	57	70	85	91	93	85
largest	1	12	49	76	79	89	95	85
suit	1	27	49	75	82	85	95	84
there	17	59	71	76	85	88	92	85
hold	12	50	65	75	85	89	92	85
thinking	1	28	48	73	83	90	92	85
sank	2	24	51	72	84	90	92	85
living	4	23	52	79	82	88	91	85
tame	5	43	64	77	82	87	91	84
lets	19	42	66	75	81	89	91	84
trunk	1	12	44	74	81	89	91	84
taking	4	35	70	72	84	89	90	84
schoolhouse	13	33	64	73	84	88	90	84
raining	9	41	63	77	82	88	89	84
lark	4	21	52	75	84	87	89	84
stuck	2	22	45	69	85	89	94	84
smaller	6	21	49	70	84	89	94	84

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
pounds	1	23	45	68	81	89	95	83
pea	9	22	49	71	79	88	95	83
plane	5	32	55	73	81	86	91	83
lamps	6	33	57	73	81	86	91	83
pure	3	16	41	64	81	91	94	83
painted	3	14	39	67	79	90	94	83
range	1	11	38	68	76	89	95	83
teachers	1	15	49	67	77	89	95	82
leap	1	21	52	71	78	90	92	83
jail	3	17	51	70	81	88	92	83
shows	5	43	57	76	82	83	85	82
tiger	2	28	56	75	82	84	85	82
sixth	7	29	56	67	82	88	92	82
proved	1	18	32	67	82	88	92	82
sailed	2	14	42	67	79	87	93	82
ocean	n/a	7	37	67	79	87	93	82
twice	2	15	46	69	79	86	88	81
tools	4	28	45	69	79	86	88	81
wore	4	23	50	66	78	88	90	81
snowballs	4	24	55	66	78	88	90	81
sizes	n/a	13	40	66	81	87	91	81
races	2	17	45	66	82	86	91	81
wrong	2	11	36	62	80	88	93	81
turned	2	21	49	64	79	87	93	81
pile	4	25	49	68	75	86	91	80
ours	8	36	49	69	75	85	91	80
pocket	n/a	9	46	68	76	87	89	80
iron	1	8	42	67	78	86	89	80
police	n/a	15	34	58	81	89	92	80
sugar	1	10	28	58	77	89	92	79
honey	2	16	43	66	77	86	88	79
kittens	16	27	53	66	77	84	88	79
wants	13	33	56	66	75	84	91	79
jokes	4	28	46	65	77	83	91	79
sort	10	41	55	69	75	86	87	79
torn	4	29	51	67	77	86	87	79
sew	2	14	42	63	76	85	88	78
warmer	2	22	47	64	76	83	88	78

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
worry	n/a	13	43	59	79	86	89	78
talked	3	23	54	60	77	87	89	78
porch	2	20	56	65	73	78	94	78
pretty	4	28	39	62	71	81	94	77
riding	8	16	59	69	75	80	85	77
mule	6	13	41	64	77	82	85	77
stocking	n/a	15	39	58	75	85	90	77
spoken	1	7	34	59	75	84	90	77
month	1	24	50	61	78	83	87	77
shut	5	16	50	61	79	83	87	76
moreover	3	27	47	67	75	83	85	76
waiting	n/a	21	43	66	76	83	85	76
rights	3	24	43	59	71	84	88	76
repair	1	7	38	58	71	85	88	76
justly	1	14	36	52	80	83	86	75
reform	3	18	45	51	80	83	86	75
yell	5	26	54	60	73	78	87	75
windy	9	24	41	60	72	78	87	74
tribes	1	12	26	51	72	82	86	73
slope	7	14	34	50	72	82	86	73
prints	1	14	31	50	70	84	89	73
lawns	n/a	12	20	50	71	83	89	73
shake	1	17	37	60	69	80	83	73
painting	4	11	42	59	71	79	83	73
remember	1	10	23	53	72	80	85	73
hobby	1	11	25	56	68	80	85	72
wear	1	16	41	61	72	76	78	72
says	9	22	40	64	71	74	78	72
tale	3	15	39	63	70	76	80	72
prince	2	8	40	62	71	75	80	72
suits	1	14	36	54	68	80	84	72
standpoint	n/a	10	35	52	71	79	84	72
ideal	1	16	28	54	65	78	91	72
skates	1	17	36	53	65	78	91	72
location	n/a	6	9	37	70	88	92	72
producing	n/a	4	16	37	67	89	92	71
informed	1	15	39	49	69	77	88	71
watched	n/a	5	24	46	70	78	88	71

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
speaker	n/a	5	27	51	68	81	84	71
single	n/a	10	25	51	69	80	84	71
intend	7	18	43	55	68	78	82	71
queer	1	11	29	55	69	76	82	71
wouldn't	n/a	6	20	58	67	74	79	70
merry	2	14	39	57	67	75	79	70
victory	n/a	3	15	39	70	84	89	70
serve	1	7	27	38	70	84	89	70
route	1	10	18	47	61	81	89	70
offices	1	11	25	47	64	78	89	70
passage[10]	n/a	3	21	45	68	79	88	70
ironing	n/a	13	23	46	66	79	88	70
joined	1	10	26	48	67	78	85	70
mittens	6	20	31	47	66	77	85	69
noble	7	9	32	49	67	77	83	69
shift	4	13	31	52	67	73	83	69
shed	6	19	36	54	66	72	81	69
monster	1	12	35	53	66	73	81	69
roar	n/a	12	28	55	69	73	80	69
paid	1	16	38	56	66	75	80	69
howling	5	16	33	49	60	78	80	67
sweetheart	n/a	6	24	49	60	77	80	67
lists	3	20	34	56	60	74	76	67
Thursday	1	16	36	57	60	72	76	66
thrill	1	11	24	50	59	72	84	66
hundreds	1	14	36	50	59	70	84	66
wages	1	8	30	43	64	76	82	66
repaired	n/a	9	22	42	64	76	82	66
monthly	1	11	29	44	66	74	79	66
rid	11	22	40	43	64	75	79	65
quiet	n/a	7	25	51	67	72	74	66
minute	1	6	13	51	62	73	74	65
rough	n/a	4	21	42	63	72	87	66
sparrow	n/a	3	19	42	60	73	87	65
rare	1	9	23	44	58	72	85	65
shopping	1	8	21	46	55	73	85	65

[10] We are using this pair to illustrate how to determine gains on pp. 9-13.

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
salesman	1	12	23	43	58	72	84	64
perfume	1	5	18	41	59	71	84	64
requested	n/a	3	16	37	62	72	85	64
notation	n/a	4	15	33	59	78	85	64
hungry	n/a	10	34	50	61	71	74	64
interesting	n/a	12	25	49	62	69	74	64
pennies	6	10	23	44	60	72	78	64
restless	n/a	5	23	40	63	71	78	63
wrist	1	4	20	42	59	71	79	63
troubles	n/a	6	12	40	60	72	79	63
scorn	3	11	25	46	56	71	75	62
racing	2	12	25	45	58	69	75	62
treasure	1	2	14	35	51	79	82	62
rye	n/a	2	15	31	55	79	82	62
seeking	1	9	22	39	63	65	80	62
properly	1	5	18	38	62	67	80	62
prayer	1	7	20	39	54	75	77	61
you've	1	7	22	37	54	75	77	61
mention	n/a	7	14	33	55	76	81	61
locating	2	2	15	34	56	72	81	61
tremble	n/a	3	15	41	55	65	78	60
largely	n/a	5	19	38	56	67	78	60
regular	1	2	11	28	52	74	86	60
regulations	1	6	8	25	53	72	86	59
sections	n/a	1	8	25	56	73	84	60
produced	n/a	2	8	25	57	70	84	59
musical	2	5	11	32	50	68	84	59
statue	n/a	2	11	26	53	70	84	58
ounce	n/a	6	19	33	52	72	79	59
managed	1	8	13	33	53	71	79	59
plunge	n/a	5	19	39	51	63	78	58
refreshments	3	6	21	39	51	62	78	58
quietly	n/a	5	21	34	58	63	75	58
prayers	1	4	15	35	59	61	75	58
verses	1	5	17	35	53	71	74	58
refuge	n/a	7	20	35	55	68	74	58
maintain	1	5	16	38	49	69	74	58
replying	4	5	20	36	53	67	74	58

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
view	1	2	16	33	55	68	74	58
item	n/a	15	21	33	55	67	74	57
informal	n/a	11	17	26	53	65	83	57
loyal	n/a	7	12	27	52	63	83	57
vision	n/a	1	6	27	50	68	82	57
princess	n/a	3	15	28	48	68	82	57
regard	1	18	27	38	54	63	72	57
you'd	4	15	24	38	53	63	72	57
oblige	1	9	20	38	56	64	69	57
strikes	1	7	21	38	57	62	69	57
industry	n/a	1	7	24	52	66	81	56
preserve	2	8	17	25	51	65	81	56
pearl	n/a	2	18	31	55	66	71	56
pattern	1	3	16	32	55	63	71	55
selection	n/a	1	10	24	53	68	77	56
respects	n/a	3	11	28	51	64	77	55
respective	n/a	4	9	22	45	70	80	54
mission	n/a	3	4	23	45	68	80	54
select	n/a	5	12	34	42	64	75	54
hedge	n/a	3	13	36	42	62	75	54
sole	2	15	33	39	50	58	64	53
lily	2	7	30	41	49	57	64	53
potato	8	14	25	36	50	60	62	52
penmanship	5	11	31	33	54	59	62	52
voyage	n/a	8	11	26	50	59	73	52
perfectly	n/a	1	10	25	51	58	73	52
represents	n/a	7	18	31	48	54	76	52
obliged	1	6	19	31	45	56	76	52
poetry	1	3	10	24	46	65	72	52
included	n/a	2	13	24	47	64	72	52
reverse	1	2	15	27	46	64	71	52
sprinkle	n/a	3	13	27	47	62	71	52
theme	1	9	17	30	49	56	71	52
salesmen	1	7	18	32	49	54	71	52
instant	n/a	7	15	28	47	65	70	53
neglect	n/a	4	12	27	44	68	70	52
items	n/a	5	22	31	42	59	77	52
inclined	n/a	9	16	33	42	57	77	52

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
increasing	n/a	1	11	25	46	55	77	51
portion	1	3	8	25	45	55	77	51
intention	n/a	1	9	28	46	63	69	52
regarded	n/a	9	16	27	46	62	69	51
mercy	1	3	17	32	48	57	65	51
sleeve	4	7	17	32	44	59	65	50
introduction	n/a	1	6	19	35	64	79	49
humanity	n/a	2	6	19	37	62	79	49
sister's	5	17	19	43	46	49	54	48
passed	1	9	33	41	44	48	54	47
realize	1	3	9	26	36	56	73	48
width	1	3	10	22	36	58	73	47
mental	n/a	6	11	24	38	60	66	47
represented	n/a	2	13	25	36	60	66	47
naughty	n/a	3	11	27	36	58	67	47
neglected	n/a	4	7	24	36	58	67	46
lawyer	n/a	2	13	22	34	59	67	46
inquiring	n/a	5	7	24	33	58	67	46
surround	n/a	1	10	23	36	58	64	45
reasonable	n/a	3	8	21	36	56	64	44
instantly	n/a	5	11	25	40	54	62	45
image	4	6	10	21	41	52	62	44
imagine	n/a	3	7	13	27	57	69	42
notify	n/a	1	7	11	27	58	69	41
particular	n/a	2	8	14	36	47	68	41
missionary	n/a	1	4	12	34	51	68	41
unusual	n/a	n/a	4	17	28	50	63	40
marriage	n/a	n/a	4	16	27	52	63	40
issues	2	3	6	15	35	49	60	40
horror	1	5	9	15	32	51	60	40
vegetables	n/a	2	8	16	36	44	59	39
supreme	n/a	4	6	13	34	49	59	39
refers	2	6	9	22	31	47	56	39
straighten	n/a	n/a	5	20	32	47	56	39
mother's	17	24	31	34	37	40	46	39
teacher's	1	11	17	30	36	42	46	39
tailor	6	6	11	24	31	46	50	38
stretch	n/a	3	9	25	32	44	50	38

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
proceeds	2	3	4	12	30	49	60	38
opposed	n/a	2	3	12	30	49	60	38
nervous	n/a	1	5	13	23	47	64	37
requirement	n/a	n/a	4	12	25	44	64	36
saucers	3	4	7	16	29	44	57	37
security	n/a	1	3	16	24	46	57	36
reference	n/a	n/a	5	11	30	41	58	35
publications	n/a	1	3	13	28	41	58	35
solution	n/a	1	4	13	25	39	62	35
purchased	n/a	2	5	13	23	38	62	34
particulars	1	3	8	17	23	44	53	34
journal	n/a	1	7	20	23	41	53	34
sacred	1	3	8	15	25	38	53	33
nonsense	n/a	2	5	16	20	39	53	32
parcel post	n/a	3	5	16	25	39	52	33
unpleasant	n/a	1	5	13	26	40	52	33
tremendous	n/a	n/a	4	17	23	40	50	33
inhabitant	n/a	1	6	13	25	42	50	33
responsible	n/a	1	2	12	27	39	55	33
merit	n/a	2	8	13	26	38	55	33
readily	n/a	2	5	12	20	37	61	32
superior	n/a	n/a	3	7	21	40	61	32
residence	n/a	1	3	9	24	35	54	31
occasions	n/a	n/a	4	9	20	34	54	29
sacrifice	n/a	1	4	9	15	40	52	29
previously	n/a	1	2	9	15	38	52	29
organization	n/a	1	4	11	20	35	51	29
persuaded	n/a	1	6	11	18	36	51	29
instances	n/a	1	5	10	20	38	47	29
tradition	n/a	1	4	11	24	32	47	29
officials	n/a	1	3	7	16	38	50	28
inferior	1	2	4	7	18	34	50	27
ignorance	n/a	n/a	6	9	16	27	49	25
occasion	1	2	3	7	13	31	49	25
incident	1	2	4	8	15	31	46	25
official	n/a	n/a	n/a	8	16	29	46	25
necessary	n/a	1	2	8	17	23	48	24
legislation	n/a	n/a	2	6	20	21	48	24

Word Pairs of **Equal** Difficulty	Per cent who can correctly spell the word in September in Grades: 2	3	4	5	6	7	8	**Average** per cent Grades **5-6-7-8**
sympathy	n/a	n/a	3	5	16	31	45	24
quantitites	n/a	1	4	7	13	31	45	24
pursue	n/a	4	6	14	19	26	38	24
veil	n/a	1	6	10	17	31	38	24
illustration	n/a	1	3	8	12	27	44	23
mechanical	n/a	2	3	9	11	24	44	22
multiplication	n/a	n/a	2	6	13	30	41	23
individual	n/a	n/a	2	5	12	30	41	22
statistics	n/a	1	3	11	17	27	35	23
petition	n/a	3	5	9	19	25	35	22
offense	n/a	2	4	5	14	29	39	22
vacancies	n/a	n/a	2	6	13	27	39	21
voucher	2	3	5	9	17	25	36	22
remembrance	n/a	1	3	11	15	23	36	21
vague	2	3	5	9	13	25	37	21
occurs	n/a	1	2	8	14	25	37	21
leisure	n/a	1	1	6	7	26	43	21
immediate	n/a	1	2	5	7	25	43	20
license	n/a	3	7	8	16	25	31	20
recommended	n/a	n/a	4	8	13	25	31	19
warrant	1	3	4	7	13	22	33	19
installation	n/a	n/a	2	5	11	24	33	19
schedule	n/a	1	3	5	11	23	37	19
intelligence	n/a	n/a	2	3	14	22	37	19
recognition	n/a	n/a	2	7	8	18	40	18
unfortunately	n/a	n/a	2	3	8	13	40	16
partial	n/a	n/a	6	8	11	19	29	16
pamphlet	n/a	1	2	5	12	18	29	16
receipts	1	2	3	4	7	20	30	15
solemn	n/a	n/a	1	6	7	17	30	15
unnecessary	1	2	4	5	8	15	25	13
unanimous	n/a	n/a	2	6	8	14	25	13
necessarily	1	2	5	7	8	10	22	11
thoroughly	n/a	n/a	3	4	6	13	22	11
privilege	n/a	n/a	2	5	6	8	22	10
intellectual	n/a	n/a	1	4	5	10	22	10
politician	n/a	1	2	3	5	11	21	10
restaurant	n/a	2	3	4	5	9	21	10

An Overview of the Services Provided by the AVKO Foundation

- Inservices, Workshops, Training Sessions for:
  Classroom Teachers, Parents, Homeschoolers,
  Adult Literacy Volunteer Tutors,
  Reading and Curriculum Consultants,
  Special Education Consultants.
- Educational and Instructional Materials.
  Write for FREE catalog.
- FREE Daily Tutoring at the AVKO Reading Clinic.
- Bernice Webb Memorial Library.

AVKO is a non-profit tax-exempt 501(C)3 membership organization, founded in 1974, subsidized by donations and occasional grants, open to membership to anyone interested in helping others learn to read. staffed by volunteers.

AVKO Educational Research Foundation
3084 W. Willard Road, Suite 605
Clio, Mich. 48420-7801
Phone: (810) 686-9283 FAX: (810) 686-1101